

CLAIMS:

1. A protection circuit for an apparatus comprising:
a plurality of fans (Fi), the protection circuit comprises a plurality of elements (Zi; II), each element (Zi, II) being associated with a corresponding one of the plurality of fans (Fi) and having a property with a value depending on an operation condition of the

5 corresponding one of said fans (Fi), the elements (Zi; II) being arranged in parallel between a reference line (GND) and a protection line (PROT), and

a detection circuit (2) coupled to the protection line (PROT) for detecting whether a total value of the parallel-arranged elements (Zi) is in a range indicating that at least one of the fans (Fi) is in an abnormal operation condition.

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2. A protection circuit as claimed in claim 1, characterized in that the element (Zi; II) comprises a current source (II) for supplying a current whose the value depends on the operation condition of the corresponding fan (Fi).

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3. A protection circuit as claimed in claim 1, characterized in that the element (Zi; II) comprises an impedance element (Zi) of whose the value depends on the operation condition of the corresponding fan (Fi).

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4. A protection circuit as claimed in claim 3, characterized in that the impedance element (Zi) comprises a series arrangement of a resistor (Ri) and a main current path of an electronic switch (Si), a control input of the electronic switch (Si) being coupled to the corresponding fan (Fi) for receiving a signal (ISi) indicating whether the fan (Fi) is operative or inoperative.

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5. A cooling system comprising a plurality of fans (Fi) and a protection circuit for an apparatus comprising the plurality of fans (Fi), the protection circuit comprises:

a plurality of elements (Zi; II), each element (Zi, II) being associated with a corresponding one of the plurality of fans (Fi) and having a property with a value depending on

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on an operation condition of the corresponding one of said fans (Fi), the elements (Zi; II) being arranged in parallel between a reference line (GND) and a protection line (PROT), and

a detection circuit (2) coupled to the protection line (PROT) for detecting whether a total value of the parallel-arranged elements (Zi) is in a range indicating that at

5 least one of the fans (Fi) is in an abnormal operation condition to protect overheating of the apparatus.

6. A display apparatus comprising a display device, a plurality of fans for cooling the display apparatus, and a protection circuit, characterized in that the protection circuit

10 comprises:

a plurality of elements (Zi; II), each element (Zi, II) being associated with a corresponding one of the plurality of fans (Fi) and having a property with a value depending on an operation condition of the corresponding one of said fans (Fi), the elements (Zi; II) being arranged in parallel between a reference line (GND) and a protection line (PROT),

15 a detection circuit (2) coupled to the protection line (PROT) for detecting whether a total value of the parallel-arranged elements (Zi) is in a range indicating that at least one of the fans (Fi) is in an abnormal operation condition, to protect overheating of the display apparatus.

20 7. A display apparatus as claimed in claim 6, characterized in that the detection circuit (2) comprises means for selectively limiting the power dissipation in the display apparatus in dependence on a number of fans (Fi) operating abnormally.